

Appl. No. : 09/318,073
Filed : May 25, 1999

second shielding means having a soft magnetic material, said second shielding means positioned below the lower surface of the magnetic storage means.

2. (Amended) A monolithically formed ferromagnetic thin film memory element, comprising:

magnetic storage means having an upper surface and a lower surface;

a word line having an inner surface and an outer surface;

a digital line having an inner surface and an outer surface, the inner surface of said digital line spaced from the inner surface of said word line, with the magnetic storage means positioned therebetween;

first shielding means having a soft magnetic material, said first shielding means positioned above the upper surface of the magnetic storage means and adjacent the outer surface of the word line; and

second shielding means having a soft magnetic material, said second shielding means positioned below the lower surface of the magnetic storage means and adjacent the outer surface of the digital line.

5. (Amended) A monolithically formed ferromagnetic thin film memory element according to claim 3, further comprising a first insulating means situated between said magnetic storage means and the inner surface of said word line.

6. (Amended) A monolithically formed ferromagnetic thin film memory element according to claim 5, further comprising a second insulating means situated between said magnetic storage means and the inner surface of said digital line.

9. (Amended) A monolithically formed magneto-resistive memory element, comprising:

a word line having an inner surface and an outer surface;

a digital line having an inner surface and an outer surface, the inner surface of said digital line spaced from the inner surface of said word line;

a magnetic bit region between the inner surface of said word line and the inner surface of said digital line;

Appl. No. : 09/318,073
Filed : May 25, 1999

a first shielding layer having a soft magnetic material, the first shielding layer positioned adjacent the outer surface of the word line; and

D3
Cont.
a second shielding layer having a soft magnetic material, the second shielding layer positioned adjacent the outer surface of the digital line.

D4
14. (Amended) A monolithically formed magneto-resistive memory element according to claim 9, further comprising a first insulating layer between said magnetic bit region and the inner surface of said word line.

15. (Amended) A monolithically formed magneto-resistive memory element according to claim 14, further comprising a second insulating layer between said magnetic bit region and the inner surface of said digital line.

16. (Amended) A monolithically formed magneto-resistive memory element according to claim 9, wherein the word line is positioned below said magnetic bit region and said digital line is positioned above said magnetic bit region.

DS
20. (Amended) A monolithically formed magneto-resistive memory element according to claim 19, further comprising a first insulating layer between the inner surface of the word line and the magnetic bit region.

21. (Amended) A monolithically formed magneto-resistive memory element according to claim 20, further comprising a second insulating layer between the inner surface of the digital line and the magnetic bit region.

REMARKS

Allowable Subject Matter

Applicants note with appreciation the finding of Claims 2-4, 7 and 8 to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In response, Applicants have rewritten Claim 2 in independent form to include all of the limitations of base Claim 1. Claims 3, 4, 7 and 8 all depend from amended independent Claim 2. Accordingly, Claims 2-4, 7 and 8 are in condition for allowance.